



MEASURE

AIRFLOW



XF5

The CRC Fan Array Monitoring System (XF5) accurately measures and totalizes airflow for up to 12 fans within a single array or across dual supply/return arrays. Featuring a full-color touchscreen interface, it delivers real-time performance insights and enables fast, intuitive commissioning. The XF5 ensures precise, repeatable airflow measurement using CRC's patented Airflow WING Fan Inlet Probes or Fan Piezo Sensors for reliable system monitoring.



KEY FEATURES

- **Monitors Up to 12 Fans:** Measures and totalizes airflow for up to 12 fans within a single or dual fan array, with real-time data displayed on an intuitive touchscreen.
- **Auxiliary Monitoring Inputs:** Supports two additional inputs for outside air measurement, duct temperature sensing, or AHU filter status.
- **Advanced Alarm System:** Provides real-time alerts for totalized airflow deviations and individual fan failures.
- **Streamlined Commissioning:** Intuitive touchscreen interface enables fast setup without specialized software or tools.
- **Seamless BACnet® MS/TP Integration:** Enables network access to individual fan data and total system performance for smooth BMS integration.

AF4

The AF4 Airflow Measurement System uses CRC's patented WING technology to provide stable, repeatable airflow measurement for both simple and complex airflow measurement applications. One AF4 Transmitter supports up to four independent measurement stations and provides touchscreen configuration, commissioning, diagnostics, real-time monitoring, analog outputs, and BACnet® MS/TP integration.

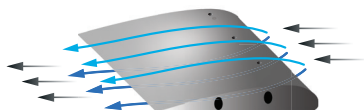


KEY FEATURES

- **Multi-Station Support** – Connect and manage up to four AF4 Airflow Measurement Stations from a single transmitter, minimizing hardware footprint and network load.
- **Fast Commissioning** – Touchscreen-based workflow simplifies setup, balancing, and verification without laptops or software utilities.
- **Integrated Diagnostics** – Onboard I/O status, BACnet® MS/TP counters, and live airflow data provide clear insight into device performance and network health.
- **Flexible Communication** – Supports analog outputs and BACnet® MS/TP with configurable scaling, network settings, and station assignments.

PATENTED WING TECHNOLOGY

Patented WING technology uses aerodynamic airfoil probes and passive sensing to provide stable, repeatable airflow feedback while reducing common maintenance concerns associated with direct-exposure airflow technologies.



PATENTED WING TECHNOLOGY

- **Patented WING Design:** Aerodynamically shaped airfoil probes generate a stable pressure differential for airflow measurement across a wide operating range.
- **Maintenance-free Sensing:** Passive indirect sensing eliminates exposure of the sensing element to the air stream, minimizing common maintenance concerns associated with direct-exposure airflow technologies.
- **Contaminant-Resistant Operation:** The WING design reduces susceptibility to debris buildup compared to pitot tube or thermal airflow measurement methods.
- **Repeatable Field Performance:** Provides stable airflow feedback when installed in accordance with CRC placement guidelines and verified during commissioning.

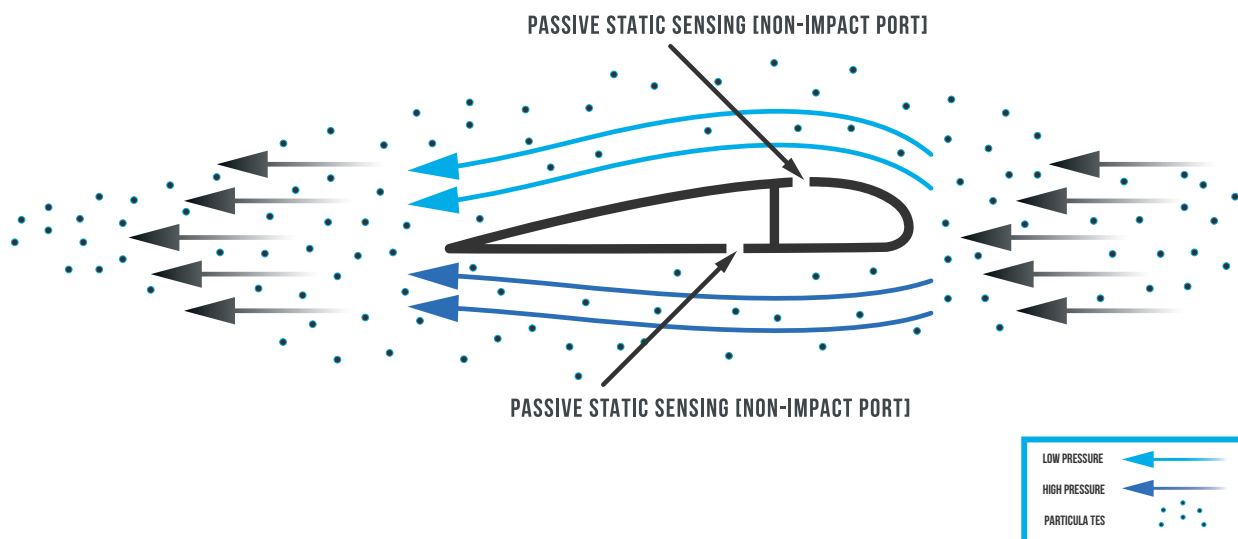
PRODUCT TECHNOLOGY

CRC's patented WING technology provides reliable airflow measurement for demanding HVAC applications, including outside air intakes, exhaust air streams, fan arrays, ducts, hoods, and plenums.

The aerodynamic WING profile creates a measurable pressure differential as air moves across the sensing element. Based on Bernoulli's principle, this pressure differential correlates to airflow velocity and provides a stable signal for airflow monitoring and control.

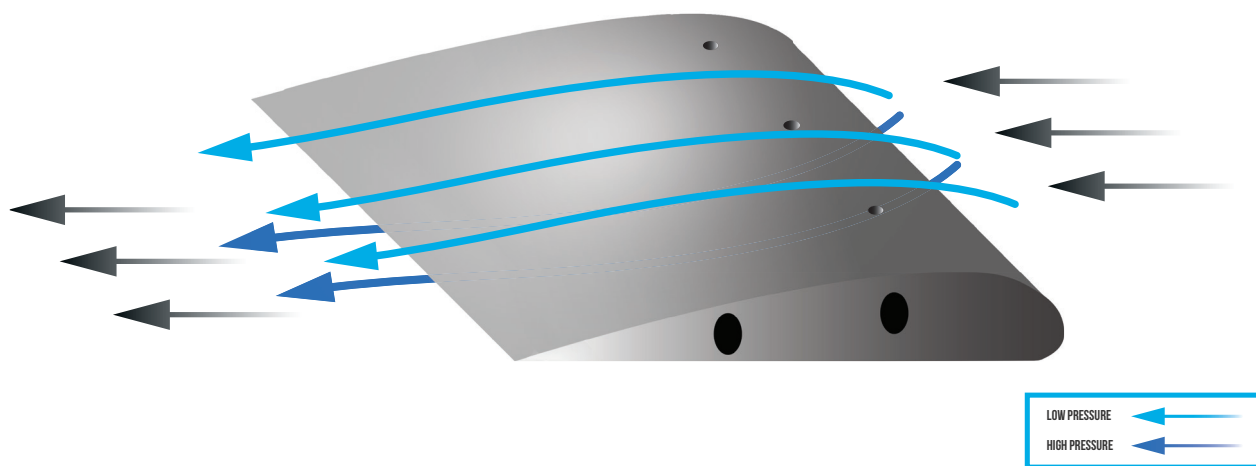
PASSIVE INDIRECT SENSING

CRC's passive indirect sensing design captures pressure through static, non-impact sensing ports perpendicular to airflow rather than direct exposed impact openings. This prevents exposure to lint, dust, dirt, and moisture, helping maintain stable airflow feedback in real-world air streams.



AIRFLOW WING DESIGN

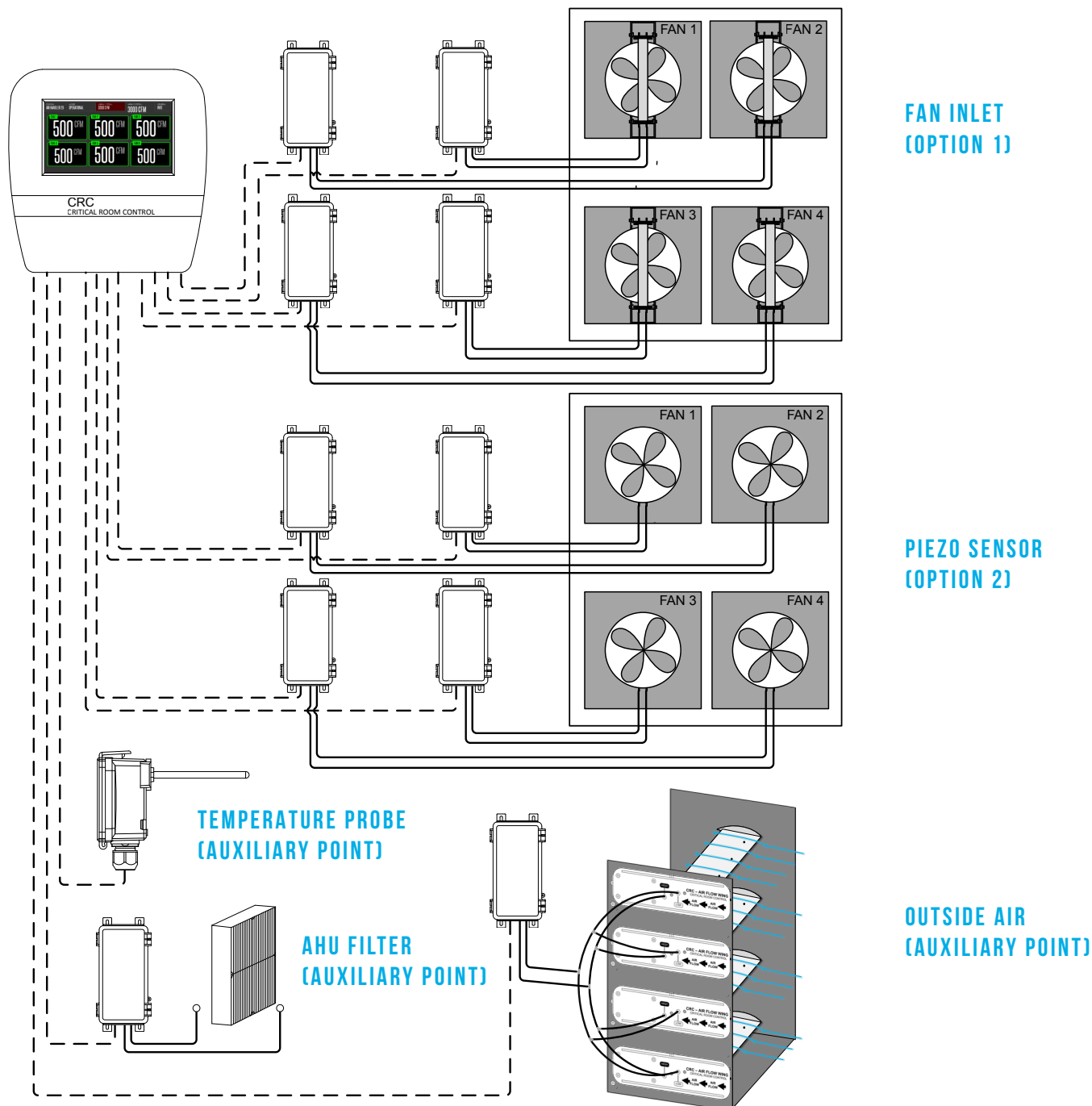
WING technology uses precisely oriented sensing ports on the airfoil profile to detect high- and low-pressure regions created by moving air. This passive design supports repeatable airflow measurement while reducing common maintenance concerns associated with thermal sensors and traditional pressure probes.



EQUIPMENT LAYOUT OPTIONS XF5

SYSTEM CONFIGURATION

The XF5 simplifies installation with its modular design, allowing the transmitter to be positioned in a convenient location while remote sensors can be placed at optimal positions relative to the fan array. When using CRC's patented Airflow WING probes, they can be installed either in the field or at the air handling unit manufacturer. The XF5 also supports Piezo Sensors, enabling field connections to manufacturer-supplied Piezo rings. Additionally, the XF5 offers two extra input channels for connecting additional airflow measurement stations, including outside air monitoring, temperature sensing, or filter monitoring.



SYSTEM LAYOUT

The AF4 Airflow Measurement System is built around two core elements that work together to deliver accurate, maintenance-free airflow performance.

AF4 TRANSMITTER

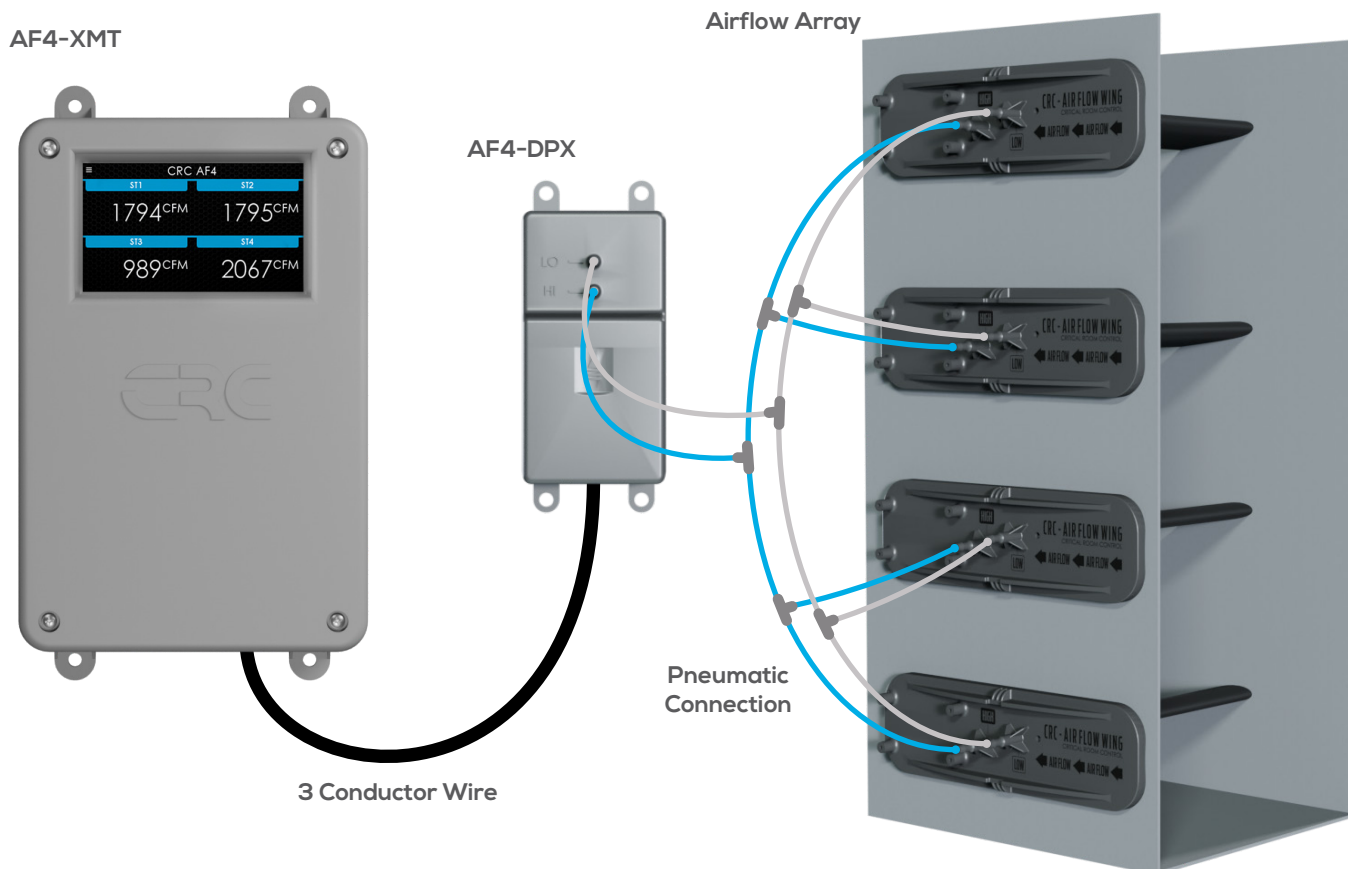
The AF4 Transmitter serves as the display and communication center for the system. It receives airflow data from each connected AF4 Airflow Measurement Station, processes and displays real-time performance information, and provides analog and BACnet outputs to the building automation system. A single transmitter can support up to four independent measurement points.

AF4 AIRFLOW MEASUREMENT STATION WITH WING TECHNOLOGY

Each AF4 Airflow Measurement Station combines CRC's patented WING technology with an integrated airflow sensor to form a complete measurement point. Installed within the duct or plenum, the airfoil probes passively sample airflow across multiple locations, while the sensor converts those pressure signals into a precise airflow value. Measurement stations are available in standard-flow and high-flow ranges to accommodate a wide variety of applications and duct sizes.

When multiple airfoil probes are required for a single measurement, they are combined into a unified array, ensuring accurate, representative airflow feedback for that measurement point.

A system diagram below illustrates the relationship between the transmitter, sensors, and airfoil probes, including their electrical and pneumatic connections.



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